

MAINTENANCE

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GENERAL

Mechanical Maintenance and Lubrication recommendations have been developed to provide the owner with optimum performance of his vehicle and maximum protection under reasonable driving conditions.

The intervals at which the various lubrication and maintenance services should be performed are detailed in this manual section and in the Mechanical Maintenance Schedule provided with each vehicle. The schedule is designed to advise the owner of what is expected of him in continuance of the quality performance designed and engineered into his Jeep vehicle.

Detailed service procedures and specifications are listed in the respective sections of this manual.

Maintenance is service that is required through everyday driving of any vehicle. Maintenance services are specified by the Jeep Engineering Staff. Some are required for best operation on a mileage or time basis, as outlined in the Mechanical Maintenance Schedule.

The services outlined are those which experience and testing have indicated are most likely needed, at the intervals shown. However, driving conditions may vary the interval; for example, a brake inspection may be needed more often in stop and go use than in highway driving. Maintenance performed at regular intervals is the key to long and trouble-free vehicle life.

The Mechanical Maintenance Schedule will serve as a quick reference to the periodic maintenance and lubrication intervals required and recommended for Jeep vehicles.

Fuel

All 1974 Jeep engines will operate efficiently on regu-

lar grade leaded fuel or unleaded fuel of 91 research octane or higher. The use of unleaded fuel helps in the reduction of hydrocarbon emissions.

Road Test

The owner will usually outline the nature of conditions that may exist in the vehicle. However, a road test may indicate the exact condition. It may also indicate the probable reason for the condition.

If at all possible, the road test should be performed with the owner driving and outlining the condition reported. This will provide an insight as to whether or not the condition might, perhaps, be a result of the type of driving.

SERVICES SCHEDULED BY MILEAGE OR TIME INTERVALS

Engine Oil Change

The initial change of oil should be made at 5,000 miles. As periods for subsequent drains are affected by a variety of conditions, no single mileage figure can apply to all types of driving (refer to Engine Oil and Oil Filter Change - Mechanical Maintenance Schedule).

Under normal favorable conditions, draining at 5,000 mile intervals or every five months, whichever occurs first, is required. When changing oil, drain crankcase after engine has reached normal operating temperature to ensure complete removal of used oil.

Engine Oil Quality

For maximum engine protection under all driving

1974 MECHANICAL MAINTENANCE SCHEDULE

Engine Oil and Oil Filter Change required (R) every 5,000 miles or 5 months, whichever comes first. If most vehicle uses involve trips under 6-8 miles, change oil once in between the oil-and-filter changes. Change Heavy-Duty (HD) every 3,000 miles or 3 months, whichever comes first.	Engine Coolant Change required (R) at 25,000 miles or 25 months and then at the start of every winter season. Wheel Nuts Torque (R) after first 200 miles.	Tires Tires and tire services are excluded from both the New Vehicle Guarantee and this maintenance schedule. Tires are warranted directly by their manufacturers. Their normal maintenance recommendations appear as guides under Tire Condition and Tire Rotation.
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SERVICES SCHEDULED by ACCUMULATED MILEAGE

HD - If you operate your Jeep vehicle under heavy-duty conditions such as off-road or dusty driving conditions for over 30% of use; extended idling during normal uses; towing heavy trailers (over 2,000 lbs.); or short run uses (most trips under 6-8 miles); more frequent servicing intervals are required. HD service intervals are in addition to others indicated. R - Required for function and durability. E - Required to help assure compliance with U.S. National Emission Control Standards.																				
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Fluids (including battery) - inspect/correct level (a) Chart 1	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
COMPLETE BODY LUBRICATION AND BRAKE INSPECTION (b) Chart 2	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD
Front Suspension - inspect/correct caster and toe	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD
Manual Transmission Clutch - inspect/correct adjustment			R			R			R			R			R			R		
Automatic Transmission - adjust linkage			R			R			R			R			R			R		
COMPLETE CHASSIS LUBRICATION (Chart 3)	CJ																			
	Cherokee/Wagoneer /Truck																			
Shock Absorber Mountings and Bushings - inspect	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD
Spring Bushings - inspect	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD	R	HD	HD
Exhaust System - inspect	R	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD
U.S. EMISSION CONTROL SERVICES (Chart 4)	Scheduled routine service																			
	E.G.R. valve service*																			
	Complete precision tune-up																			

- a. Check engine oil level at each gasoline fill.
 b. Immediately after operating in sand, mud, water, etc., inspect the brake assemblies and clean if necessary

*Service at 10,000-mile intervals if leaded fuel is used.
 Service at 25,000-mile intervals if lead-free is used.

conditions, use only engine oil meeting API Engine Oil Service Classification "SE". The term "SE" must appear on the oil container singly or in conjunction with other designations. SE engine oils provide more protection against oil oxidation, high-temperature engine deposits, rust and corrosion.

Engine Oil Viscosity

Multi-viscosity or single-viscosity types of oil are equally acceptable if refined and sold by reputable oil companies. However, multi-viscosity oil is your best choice since it covers a broader range of operating temperatures and driving conditions. Oil viscosity should be determined by the lowest air temperature anticipated before your next oil change, as follows:

ENGINE OIL VISCOSITY

Lowest Temperature Anticipated	Recommended Single Viscosity	Recommended Multi-Viscosity
Above + 32° F	SAE 20W-20	SAE 10W-30 or 10W-40
Above 0° F	SAE 10W*	SAE 10W-30 or 10W-40
Below 0° F	SAE 10W*	SAE 5W-20 or 5W-30

*Sustained high speeds (above 65 mph) should be avoided when using SAE 10W engine oil since oil consumption may be greater.

CHART 1 FLUIDS

INSPECT AND CORRECT LEVELS:

Normal Service - Every 5,000 Miles*

Heavy Duty Service - Every 3,000 Miles*

Transmission
Transfer Case - Model 20 only**
Differentials - Front and Rear
Steering Gear Housing
Power Steering Reservoir
Brake Master Cylinder

Engine Oil Level
Radiator Coolant
Windshield Washer Solvent
Battery

} at each fuel tank fill

DRAIN AND REFILL:

At Mileage Indicated

Transmission	
Automatic	
Normal Service	25,000
Heavy Duty Service	10,000
Manual	30,000
Transfer Case - Model 20 only**	30,000
Differentials - Front and Rear	30,000

*Except as otherwise indicated

**Quadra-Trac transfer case does not require scheduled lubricant level check or drain and refill

CHART 2 COMPLETE BODY LUBRICATION AND BRAKE INSPECTION

NORMAL SERVICE - Every 15,000 miles
HEAVY DUTY SERVICE - Every 5,000 miles

Inspection, and correction as needed, of brake linings and other parts
Hood latch and hinges
Door latches, lock cylinders and door hinges*
Tailgate hinges and latches*
Front seat tracks
Ash tray slides
Glove box door latch and hinge
Courtesy light switch buttons*
Apply silicone lubricant to all door, window, tailgate and liftgate rubber weather seals

*Where applicable

CHART 3 COMPLETE CHASSIS LUBRICATION

CJ-5/CJ-6

Cherokee-
Wagoneer-Truck

NORMAL SERVICE	Every 5,000 miles	Every 15,000 miles
HEAVY-DUTY SERVICE	Every 3,000 miles	Every 5,000 miles

Inspection and/or lubrication of . . .

Steering linkage ball joints (with replacement of suspension and steering system seals and components as necessary)
Steering shaft U-joint

Lubricate every 25,000 miles
Front wheel bearings - All Models
Transfer case shift linkage - CJ-5/CJ-6
Transfer case shift control lever assembly - Cherokee, Wagoneer & Truck

Normal Service - Every 50,000 Miles
Heavy Duty Service - Every 25,000 Miles
Front and Rear Propeller Shafts - All Models

NOTE: Rear wheel bearings do not require periodic or scheduled lubrication; only at time of overhaul or other service.

CHART 4 U.S. EMISSION CONTROL SERVICES

A precision electronic diagnosis should be purchased whenever questionable engine performance occurs between the scheduled complete precision tune-up.

SCHEDULED ROUTINE SERVICES

At 5-10-20-25-35-40-50-55-65-70-80-85-95-100,000 miles
Heat Valve (exhaust manifold) - inspect and lubricate
Drive Belts - inspect condition and tension and correct if required
Air Cleaner Element - clean (more often if conditions are dusty)

EXHAUST GAS RECIRCULATION VALVE SERVICES

At 10-20-30-40-50-60-70-80-90-100,000 miles
Exhaust Gas Recirculation Valve - inspect and clean*
Exhaust Gas Recirculation Discharge Port (6 cylinder) - inspect and clean if required*
*Service every 10,000 miles if leaded fuel is used
Service every 25,000 miles if lead-free fuel is used

COMPLETE PRECISION TUNE-UP

at 15-30-45-60-75-90,000 miles
Engine Oil Filler Cap (filter type) - clean
Heat Valve (exhaust manifold) - inspect and lubricate
Drive Belts - inspect condition and tension and correct if required
Carburetor Air Cleaner Element - replace paper cartridge, clean polyurethane element, unless plugged or damaged, then replace
Fuel Filter Element - replace
PCV Valve - replace
PCV Filter (6 cylinder) - clean
PCV Hoses - inspect and replace if required
Coil and Spark Plug Wires - inspect and replace if required
Spark Plugs - clean, inspect, regap and test (replace if required)
Ignition Points and Condenser - inspect and replace if required (check dwell and set if required)
Distributor Cam Lubricator - replace
Ignition Timing - check and set if required
Distributor Advance Mechanisms - check and correct if required
Distributor Cap and Rotor - Inspect and replace if required
Idle Speed and Mixture - check and reset if required
Choke Linkage - inspect for free movement (correct if required)
Transmission Controlled Spark System - inspect and correct if required
Fuel System: Cap, Tank, Lines and Connections - inspect for integrity and correct if required
Fuel Vapor Inlet Filter at Charcoal Canister - replace
Air-Guard System Hoses - inspect and correct if required
TAC System - inspect and correct if required
Vacuum Fittings, Hoses and Connections - inspect and correct if required

Engine Oil Filler Cap

The filler-type V-8 oil filler cap should be cleaned every 15,000 miles with kerosene and compressed air.

Oil Filter

A full flow oil filter is mounted on the lower front right side on V-8 engines and on the lower center right side of six-cylinder engines.

The throw-away filter unit can be removed from the adapter with use of Oil Filter Removal Tool J-22600. The replacement unit is turned on by hand until the gasket contacts the seat and is then tightened an additional half to full turn.

The oil filter should be changed (under normal driving conditions) every 5,000 miles or five months whichever occurs first. An additional quart of oil is required at this time.

Engine Coolant

Change at 25 months or 25,000 miles and at the start of every winter season.

Coolant level should be maintained at its original concentration and at 1/2 to 1-inch (hot) and 1-1/2 to 2 inches (cold) below the rear of the filler neck seal surface. If coolant level is low, add a mixture of equal parts of All-Season Coolant (or equivalent) and pure water. In an emergency, plain water may be used. Check the freeze protection at the earliest opportunity, as the addition of plain water will reduce the antifreeze protection afforded by the coolant.

Battery

Add distilled water to bring level to the bottom of filler wells. Check specific gravity with a reliable hydrometer. Coat connections with light mineral grease or petrolatum. Refer to the Electrical Section for detailed maintenance information.

Steering Gear (Non-Power)

Lubricant should be level with the fill-hole (fig. B-1). If lubricant level is abnormally low, check for leaks.

Use special lubricant, Jeep Part No. 94656 (or equivalent).

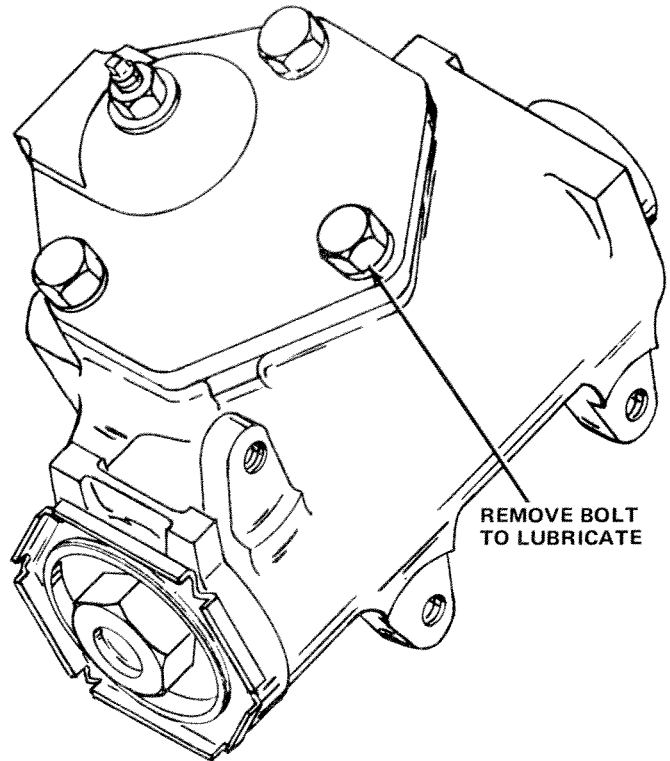
Power Steering

Use Dexron Automatic Transmission Fluid (or equivalent).

To check, remove the power steering pump filler cap and observe the fluid level. Fluid level should be at correct dipstick level. If not, fill to proper level.

If abnormally low, the power steering system should be checked for possible leaks.

Drain and refill is not required.



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Fig. B-1 Steering Gear Lubrication

Brake Master Cylinder

Add or fill to 1/2-inch from top. Use only Jeep Part No. SF8992656, Heavy Duty Automotive Brake Fluid (or equivalent) SAE Standard J1603, and Federal Standard No. 116.

Automatic Transmission

The correct oil and oil level is of utmost importance for smooth operation, proper shifting, and longevity of the unit. Avoid using nonauthorized oils which may cause trouble.

Fluid Level Condition

Low fluid level can cause a variety of conditions because it allows the pump to take in air along with the fluid. As in any hydraulic system, air bubbles make the fluid spongy; therefore, pressures will be low and build up slowly.

Improper filling can also raise the fluid level too high. When the transmission has too much fluid, the gears churn up foam and cause the same conditions which occur with a low fluid level.

In either case, the air bubbles can cause overheating, fluid oxidation, and varnish which can interfere with normal valve, clutch, and servo operation. Foaming can also result in fluid escaping from the transmission vent where it may be mistaken for a leak.

Along with fluid level, it is important to check the condition of the fluid. When the fluid is dark, smells burned, and is full of metal or friction material particles, a complete transmission overhaul is needed. Be sure to examine the fluid on the dipstick closely. If there is any doubt about its condition, drain out a sample for a doublecheck.

After the fluid has been checked, seat the dipstick fully to seal out water and dirt.

Use Dexron automatic transmission fluid (or equivalent).

With:

- Engine running,
- Vehicle on level surface,
- Brakes applied.

Move shift lever through all ranges. Place transmission in Park.

Check fluid level (dipstick is located in the filler pipe at the right rear of the engine).

The fluid level should be between the ADD and FULL marks at normal temperature (170° F). This temperature is obtained after at least 15 miles of expressway driving or equivalent in city driving.

If the transmission is not at operating temperature, the fluid level should be approximately 1/4-inch below the ADD mark with the fluid at approximately 75° F. If the oil level is correctly established at room temperature (75 degrees F, it should be at the FULL mark on the dipstick when the transmission reaches normal operating temperature 170 degrees F).

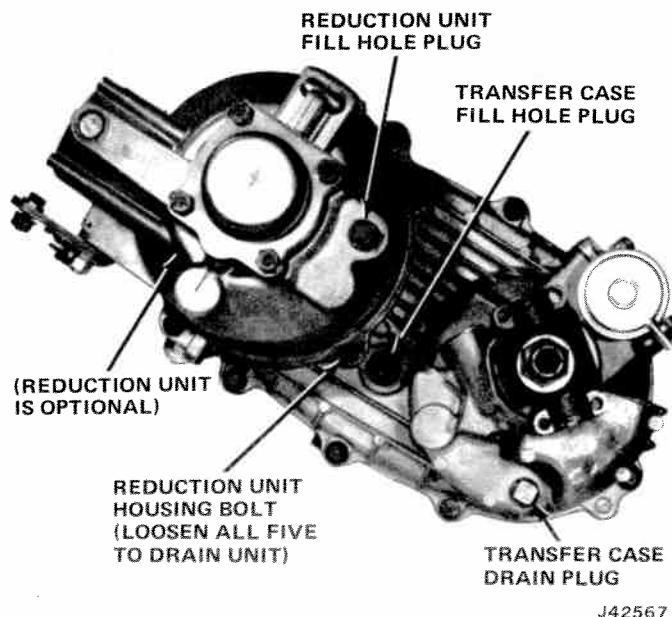


Fig. B-2 Quadra-Trac

Quadra-Trac Transfer Case

Cherokee-Wagoneer-Truck

The Quadra-Trac transfer case does not require periodic or scheduled lubrication (fig. B-2) (refer to Section 8 - Transfer Case).

Manual Transmission Transfer Case

Use SAE 80 Gear Lubricant of API, GL-4 quality.

Manual transmission and transfer case lube must be checked and/or changed at the same time. Check both units.

- Normal Driving (R) - Every 5,000 miles
- Severe driving (HD) - Every 3,000 miles

The fill hole is located on the right of the three-speed transmission and transfer case and on the left-hand side of the four-speed transmission. To check lube level(s), remove the transmission and transfer case fill plug(s). Lube should be level with each fill hole.

Lube Change CJ Models

- Every 15,000 miles.

Wagoneer and Truck

- Every 30,000 miles

Remove fill plug(s) and drain completely. Replace drain plug(s). Full to level of fill hole(s). Replace fill plug(s).

Shift Control Lever Assembly and Linkage

Use Chassis Lubricant NLGI No. 2 (or equivalent).

Lubricate at lube fitting every 25,000 miles (40,200 km).

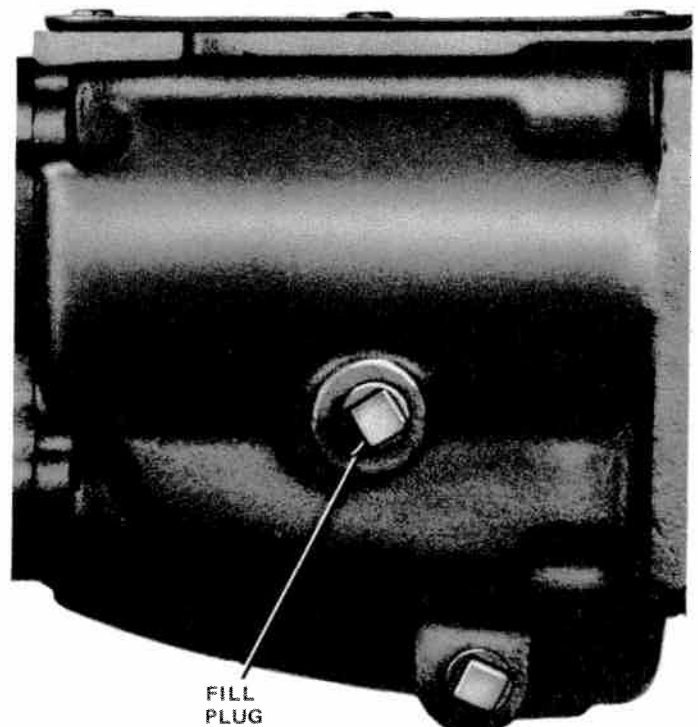


Fig. B-3 Manual Transmission

Linkage Pivot Points-All Models

Lubricate pivot points periodically with penetrating lubricant - DuPont PM6, No. 2911, or its equivalent.

Propeller Shafts Lubrication**Lubrication Frequency-**

- Normal Driving (R)-Every 50,000 miles (80,400 km).
- Severe Driving (HD) - Every 25,000 miles (40,200 km).

Sleeve Yokes (Splines)

Use Chassis Lubricant NLGI No. 2 (or equivalent)

Apply grease gun pressure to sleeve yoke lubrication fitting until lubricant appears at pressure relief hole in welch plug at sleeve yoke end of spline. At this point, cover pressure relief hole with finger and continue to apply pressure until grease appears at sleeve yoke seal. This will ensure complete lubrication of spline.

Single Cardan Joints

Use Chassis Lubricant NGLI No. 2

These assemblies are sometimes referred to as "not re-lubrical" joints because they lack a grease fitting on the journal cross.

They must be disassembled for lubrication.

Double Cardan Joint Constant Velocity

Use only special lubricant, Jeep Part No. 999633.

Mark the front propeller shaft and pinion yoke to assure proper alignment during assembly.

Disconnect the front universal joint from the front axle. Move the front end of the shaft to the right as far as possible. Rotate the shaft until the lubrication hole plug in the center bearing can be easily seen. Remove the plug. Use an extended point lubrication adapter such as Alemite Adapter, Number 6683 (or equivalent) to lube the joint. Install the hole plug.

Align the marks on the propeller shaft and pinion yoke. Connect the front universal joint to the front axle.

Axle Differentials

Use Gear lubricant Mil-L-2105B, Grade SAE-80 for all differentials except Trac-Lok, which requires special lubricant, Jeep Part No. 94556.

The Axle Model Number is cast on the axle housing (fig. B-4).

Lubricant Level

- Normal Driving (R) - 5,000 miles
- Severe Driving (HD) - Every 3,000 miles

Remove fill plug (fig. B-5). The lubricant level should be at the level of the fill hole.

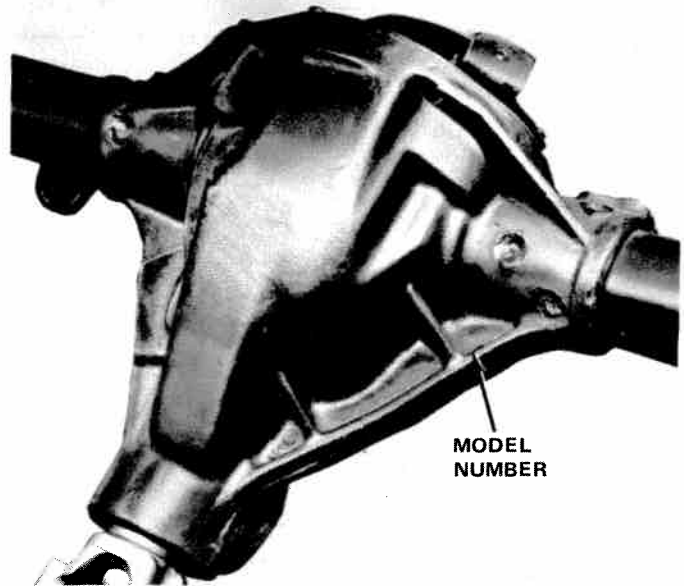
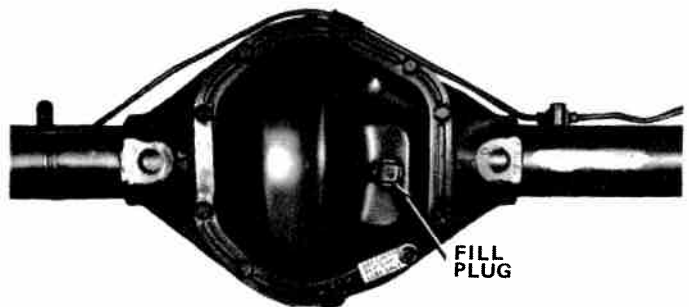


Fig. B-4 Axle Differential Model Number Location



J42570

Fig. B-5 Rear Axle Filler Plug Location (Front Axle Similar)

Lube Change - All Models

Every 30,000 miles

- (1) Remove the axle differential housing cover.
- (2) Allow lubricant to drain out.
- (3) On all differentials (except Trac-Lok) flush the differential with a flushing oil or light engine oil to clean out the housing (do not use water, steam, kerosene or gasoline for flushing).
- (4) Check condition of the differential housing cover gasket. Replace if necessary.
- (5) Install gasket and differential housing cover.
- (6) Tighten the cover bolts 15 to 25 foot-pounds.
- (7) Remove the fill plug and add new lubricant to fill-hole level.
- (8) Replace fill plug.

CAUTION: *Trac-Lok differentials may be cleaned only by dissassembling the unit, and wiping with clean rags. Do not flush the unit.*

Front Wheel Bearings

Use Wheel Bearing Lubricant NLGI No. 2 with a lithium base (EP Type or equivalent).

Lube every 25,000 miles

To lubricate front and rear wheel bearings it is necessary to remove, clean, inspect, repack and adjust them.

Adjustment

Adjustment of wheel bearings is critical because it establishes the running clearance of the wheel bearings. Adjustment that is too tight preloads the bearings and causes them to run hot. Loose bearings permit the drum hub to shift its position on the bearings as the thrust loads vary with acceleration, braking and cornering. Loose bearings can also cause erratic steering.

Rear wheel bearings on the J-20 Truck (Model 60 Full Floating Rear Axle) are adjustable. Rear wheel bearings on all other models (Model 44 rear Axles) do not require adjustment.

Steering Gear (Non-Power)

Lubrication Frequency - Every 5,000 miles (8,000 km)

Left-Hand-Drive Vehicles-

Use special lubricant, Jeep Part No. 940657.

Check and/or fill by removing the side cover bolt (opposite the adjuster screw). Lubricant should be to level at the bolt hole (fig. B-1). If lubricant level is abnormally low, check for leaks.

Steering Linkage

CJ Models

Use Chassis Lubricant NGLI No. 2 (or equivalent).

Lubrication Frequency-

- Normal Driving (R) - Every 5,000 miles (8,000 km)
- Severe Driving (HD) - Every 3,000 miles (4,900 km)

Cherokee - Wagoneer - Truck

- Normal driving (R) - Every 15,000 miles (24,100 km)
- Severe Driving (HD) - Every 5,000 miles (8,000 km)

A lubricating hand gun is required. Always wipe fitting clean before lubricating (fig. B-6). Remove excess lubricant from fittings after lubrication is completed.

SERVICE-WHILE VEHICLE IS BEING REFUELED

Battery

Check level. If necessary, add distilled water to bring level to the bottom of filler wells.

A visual check may indicate further service is required, refer to the Electrical Section for complete information.

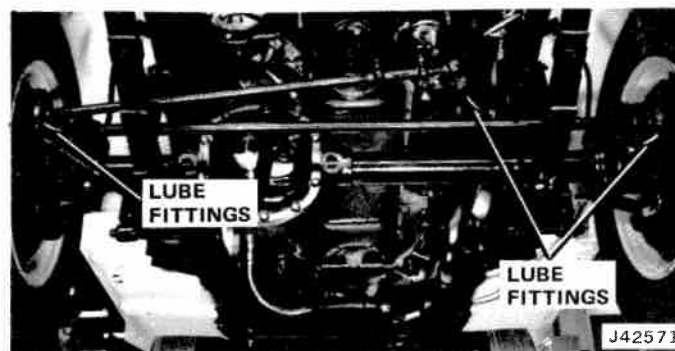


Fig. B-6 Steering Linkage Lubrication Points

Radiator Coolant

The factory installed antifreeze coolant should provide satisfactory protection for two years if the 50 percent concentration is maintained. However, after the factory fill is drained, the cooling system should be drained, flushed, and refilled annually, preferably in early fall. All-Season Coolant or other high-quality ethylene glycol antifreeze coolant should be used in the system year round. Fill with antifreeze coolant and water in 50-50 proportions to provide -34 degrees F freezing protection. The 50-50 mixture should be maintained throughout the year to provide good corrosion inhibition as well as antiboil protection, so essential during summer.

Radiator coolant level should be checked when the engine is cold, if at all possible. If the radiator cap is removed when the system is at a high operating temperature, the coolant may boil and spurt out, due to the release of pressure. Coolant lost in this manner must, of course, be replaced. If coolant should be needed, fill radiator to approximately one-half inch to one inch below the filler neck when hot or 1-1/2 inch to 2 inches when cold, add a mixture of equal parts of All-Season Coolant or another quality brand permanent antifreeze (ethylene glycol) and pure water. In an emergency, plain water may be used. Check the freeze protection at the earliest opportunity, as the addition of plain water will reduce the antifreeze protection afforded by the coolant. Do not overfill, as loss of coolant due to expansion will result.

Drive Belts

Visually inspect the drive belts used for the cooling system fan, alternator, water pump, air pump, and engine driven accessories for frayed, cracked, or deteriorated condition, and replace if required.

Refer to the Cooling section for detailed maintenance information.

Engine Oil

Prior to checking the oil level, provide sufficient time to allow the oil to drain back into the oil pan. Adding oil between changes may be necessary but only if the level is below the lower mark on the dip stick.

NOTE: Oil level should only be checked when the engine is warm, as cold oil drains back to the oil pan very slowly.

Wiper Blades

Long exposure to heat and road splash tend to harden the wiper blade rubber, thus destroying efficiency and adding to the possibility of scratching the windshield. When the wipers smear or do not clean the windshield, replacement is recommended.

Windshield Washer Solution

The windshield washer solution container is located under the hood. This container must be refilled periodically with water and, if desired, a washer solvent.

OFF-HIGHWAY OPERATION

Adequate lubrication becomes increasingly important when vehicles are used in off-highway operation. Under these conditions, all operating parts of both the engine and chassis are subjected to unusual pressures. At the same time, such operation is usually under abnormal dust and dirt conditions, making additional precautions necessary. The importance of correct lubrication for the conditions of operation cannot be overestimated.

Engine Oil

It is important, that the oil be changed after 3,000 miles or 3 months. Watch the condition of the oil closely and change it immediately if it appears to be contaminated.

Air Cleaner

Care of the air cleaner is extremely vital to the life of the engine. Pay particular attention to the amount of dust and dirt in the air taken into the engine through the air cleaner. When dust is not noticeable in the air, service the air cleaner each 5,000 miles. Whenever the air is noticeably dusty (for example when the vehicle is driven on secondary roads or through fields) then service the air cleaner more frequently. Under extreme continually dusty and dirty conditions, such as when the vehicle is operated in clouds of dust and dirt, service the air cleaner daily.

A thermostatically-controlled air inlet housing for the carburetor air cleaner (TAC) is used on all Jeep models. TAC requires no service, except to be sure all vacuum line connections are tight.

Chassis Lubrication

The period of lubrication depends entirely upon the type of work being done. Using the specified interval given in the Mechanical Maintenance Schedule as a guide, lubricate at safe intervals required for the particular type of operation. Under extremely dusty conditions lubricate these points daily. Be sure to force enough lubricant into each fitting to force out the old lubricant which might be contaminated with grit and which would cause rapid wear if allowed to remain.

Do not place lubricant on the various ball and socket joints or pivot points of the hydraulic lift linkage as dirt will accumulate to form an abrasive mixture. It is best to simply wipe these parts clean with a cloth.

Manual Transmission and Transfer Case

For economy, the combined capacity of the two housings is small which makes it important that the lubricant be changed at regular intervals. For off-highway use, drain both every 30,000 miles and fill to the fill plug opening levels.

Axle Differentials

Because of the higher pressure developed in the axle assemblies with heavy-duty operation, drain, flush, and refill the differential assemblies every 30,000 miles. Use only flushing oil or light engine oil to clean out the housings.

CAUTION: *Trac-Lok differentials may be cleaned only by disassembling the unit and wiping with clean rags. Do not flush the unit.*

NONSCHEDULED MAINTENANCE SERVICES

A Jeep vehicle is a fairly complicated piece of machinery. Most maintenance needs are taken care of on a scheduled basis as listed in the Mechanical Maintenance Schedule chart. And, while constant improvements by Jeep Corporation engineers have extended the intervals between major chassis lubrication periods, the vehicle will need a number of nonscheduled services and maintenance replacements. Need for these is determined by road, load, weather, terrain and other variable operating conditions.

HEAVY-DUTY DRIVING

Heavy-duty usage refers primarily to farming, police, Government, and commercial load-carrying applications as well as the towing of trailers weighing over 2,000 pounds loaded.

In all types of load-carrying applications and trailer towing, owners should be advised to avoid overloading and severe-condition operation which might cause

brake, engine, axle, steering, suspension, tire, or other failure.

Special driving conditions - cold weather short trips, high-speed trips, driving in heavy-dust - also call for more frequent air cleaner service, oil and filter changes, plus other heavy-duty (HD) services as outlined in the Mechanical Maintenance Schedule Chart.

CLUTCH INSPECTION AND ADJUSTMENT

The clutch pedal must have free play to prevent premature release of the throwout bearing and resultant clutch failure.

Manual transmission clutch adjustment should be verified at 15,000 mile intervals. Refer to Clutch section for detailed service information.

Emission Control Services

Periodic maintenance consisting of inspection and required services is necessary to keep the Emission Controls operating at satisfactory control levels.

Refer to Emission Control - Section 4A for complete detailed procedures and specifications.

TIRES

Tire Condition

Inspect tires often for visible signs of underinflation and uneven wear, which may indicate need for front-end alignment, tire rotation, and wheel balancing. Five-thousand mile service intervals are recommended.

Mud and Snow Tires

A Jeep 4-wheel drive vehicle, and especially vehicles with Quadra-Trac drive, must be equipped with the same size tires of equal circumference on all four wheels. Therefore, should mud and snow tires be required they must be installed on all four wheels.

These tires should be operated at full-load inflation pressures. Sustained speeds over 75 mph for one hour or more are not recommended for mud and snow tires.

Traction

The driver can spray both rear tires with Jeep Liquid Tire Chain (aerosol can), or equivalent, to improve traction on snow or ice. A mild rocking action will help free the car from snow, mud, or sand by moving the automatic transmission lever from D (drive) to R (reverse) in a repeated pattern while applying accelerator moderately (shift from 1st gear to reverse for manual transmission). Do not race engine, avoid spinning tires, and limit rocking time.

On wet or slushy roads, a water wedge can build up between the tire and road. This hydroplaning action

could cause loss of traction, adversely affecting control and braking. Slow down in rainstorm or when roads are wet or slushy, and by all means take advantage of 4-wheel drive traction.

Repair

If it becomes necessary to repair a tire due to puncture, the tire should be removed from the rim and a combination vulcanized plug and patch should be applied from the inside. Externally applied plugs, blow-out patches, and aerosol-type sealants should be considered only as emergency repair. Tires with emergency repairs should not be driven over 50 mph, nor for more than a distance of 100 miles before permanent repairs are made.

Pressures

Correct tire pressures depend on tire size, tire ply, gross vehicle weight rating (GVWR), vehicle load, and the type of driving.

For satisfactory 4-wheel drive operation, a Jeep 4-wheel drive vehicle MUST be equipped with the same size tires of equal circumference on all four wheels. The tires then must be inflated to the pressure recommended by Jeep Corporation - at all times.

Tire inflation should be checked and adjusted to recommended pressures periodically (at least monthly), especially when extreme changes (20° F.) in average seasonal temperatures occur. Tire inflation pressures should be checked and adjusted when the tires are cold-driven less than two miles at moderate speeds of less than 40 mph after the vehicle has been at rest for at least six hours.

Do not reduce inflation pressure if the tires are hot-driven over 10 miles in excess of 60 mph - as tire pressure may increase as much as 6 psi over cold pressures. If tire pressure must be adjusted while hot, temporarily set pressure at 6 psi (10 psi for sustained high speeds) greater than specified until such time cold inflation pressure can be checked and adjusted.

The correct tire inflation pressures, under any given set of driving conditions, may now be determined by referring to the Tire Inflation Pressure (psi) Table. Cold inflation pressures are those measured with the tires at approximately the prevailing atmospheric temperature and do not include any inflation buildup caused by heat from vehicle operation. Pressures specified are precisely measured for the tire sizes recommended for each Jeep vehicle model at the GVW rating.

Rotation

Rotating tires every 5,000 miles is recommended to assure longer overall tire life by equalizing wear. If no spare tire is used, follow the four-tire rotation diagram (fig. B-7). If uneven tire wear should occur

sooner than 5,000 mile intervals, the tires should be rotated more often. Whenever tires are rotated, the inflation pressure should be readjusted, and if the tires were balanced on the vehicle, they should be rebalanced.

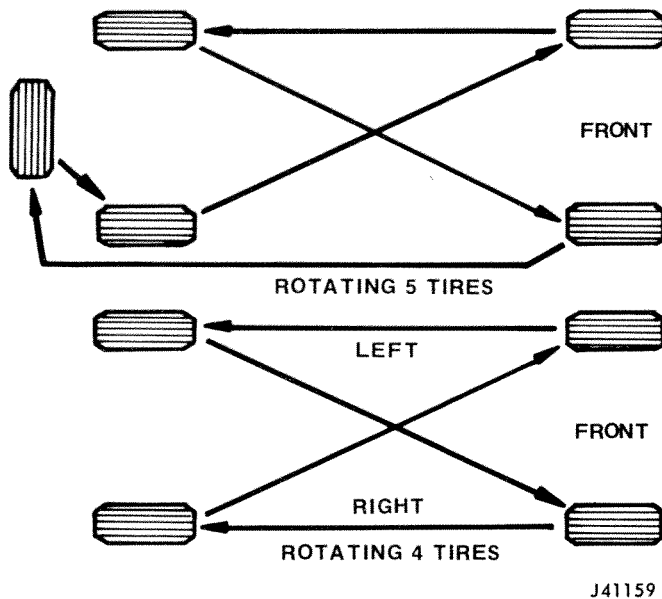


Fig. B-7 Tire Rotation



Fig. B-8 Tire Condition

GLASS - CARE AND HANDLING

Clean windshield and windows promote safety and comfort in driving. However, care in cleaning should be exercised.

Do not clean glass with a chamois or cloth which has been used to wash the car or has collected dirt and fine grit or sand. Such foreign materials will cause scratches in the glass and, in some cases, may obstruct vision.

The windshield is subject to severe road splashes when following other vehicles. These splashes may contain various types of oils and other substances that will stain and streak the glass by use of the windshield wipers.

To remove this foreign substance, use POWDERED BON AMI or equivalent on a cloth dampened with water to clean the glass and wiper blades. Then wash these parts and rinse with water.

The wiper blades should always be cleaned prior to cleaning the windshield glass.

INTERIOR TRIM CARE

The fabrics and vinyls used for interior trim are selected for their durability, fade-resistance and color-fastness. Frequent dusting with a whiskbroom or vacuum, and wiping with a damp cloth followed by toweling dry, will help keep upholstery and interior trim clean and attractive.

Imbedded dust and grease, oil, lipstick and other stains may be removed from fabrics with fabric cleaner or Jeep All-Purpose Cleaner, or equivalent. Plastic and leather cleaner is specifically recommended for vinyl trim.

Removing Stains

When using cleaning fluids, dampen a clean cloth with a fluid and start rubbing lightly around the outside of the spot, gradually working to the center. This method keeps the spot from spreading and is less likely to leave a ring. The following suggestions will be helpful in removing stains:

Battery Acid

Pour household ammonia directly on the spot and allow it to remain for one minute. Rinse with cold water. It is essential that such treatment be applied at once as the acid will permanently damage the fabric within a few hours.

Grease and Oil Stains

Use fabric cleaner. If the fabric is saturated with oil, pour cleaning fluid directly on the spot. Then soak it up by pressing a white blotter on the spot. Do this before cleaning with a cloth dampened with cleaning fluid.

Milk Stains

Use warm soapsuds. Sponge the stained area until stain is removed. Brush with a whiskbroom, with fiber pile when wet and against the pile when dry.

Water Spots

Sponge entire panel with a cloth dampened with cold water and then sponge the spots with fabric cleaner.

Chewing Gum and Tar

Cool the spot with ice cube to make the tar or gum brittle, then carefully remove with dull knife. Remove any residue with fabric cleaner.

Blood Stains

Use cold water. If this does not remove the entire stain, pour ammonia on the spot; then rub with a clean cloth.

NOTE: *Never use hot water on blood stains as this will only set the stain.*

Candy Stains

Use hot water on all candy stains that do not contain chocolate. If a chocolate stain, first rub out the stain with a clean cloth dampened with fabric cleaner. Then scrape with a dull knife and rinse with cold water. In either case, after the spot has dried it is advisable to use fabric cleaner

Fruit Stains

Rub vigorously with a cloth dampened in hot water; when dry, use fabric cleaner.

Ice Cream

Follow the same procedure as for fruit stains.

Lipstick

Pour a small quantity of fabric cleaner directly on the spot. Press a clean white blotter over the stain. Repeat this process, using a new blotter each time until the stain is removed.

Floor Coverings

Nylon pile carpeting will resist wear and retain its depth of pile for a much longer time if it is vacuumed frequently to prevent dust and dirt from being ground into the fibres.

Rubber or vinyl mats may be washed with soap and water.

Headliner

Headliners with vinyl-coated surfaces can be cleaned easily using light pressure with a clean cloth or sponge and mild soap.

CAUTION: *Never use volatile cleaning solvents, such as gasoline, naphtha, turpentine, paint thinner or carbon tetrachloride in the interior of your vehicle. Nor should laundry soaps, bleaches, tints or caustic cleaners be used. They may injure or fade trim material. If you choose to use them they should be tested on an obscure area before use.*

CAPACITIES

Capacities, Approximate Refill	U.S. Measure	Imp. Measure
Engine Oil (includes 1 quart for filter change) • 232 CID & 258 CID engines • 304 CID, 360 CID & 401 CID engines	6 quarts 5 quarts	5.0 quarts 4.2 quarts
Cooling System (Includes 1 quart for heater) • 232 CID & 258 CID engines • 304 CID engine • 360 CID & 401 engines	10.5 quarts 13 quarts 14 quarts	8.7 quarts 11.6 quarts 10.8 quarts
Transfer Case • Model 20 • Quadra-Trac ① • Quadra-Trac with Reduction Unit ①	3.25 pints 3.5 pints 4.5 pints	2.7 pints 2.9 pints 3.7 pints
Transmission • Manual 3-Speed - 6 cyl. • Manual 3-Speed - V-8 • Manual 4-Speed • Automatic - Change Only • Automatic - At Overhaul	2.5 pints 2.75 pints 6.5 pints 5.0 quarts 11.0 quarts	2.1 pints 2.2 pints 5.5 pints 4.2 quarts 9.2 quarts
Differential • Model 30 - Front Axle • Model 44 - Front or Rear Axle ② • Model 60-3 (FF) Rear Axle ②	2.5 pints 3.0 pints 6.0 pints	2.1 pints 2.5 pints 5.0 pints
Fuel Tank (Approximate Gallons) • CJ-5 & CJ-6 • Cherokee & Wagoneer • Truck	15.5 gallons 22 gallons 19 gallons	12.9 gallons 18.3 gallons 15.8 gallons

① Quantities listed are for SAE 30 (good quality) Non-Detergent Motor Oil (Ashland Valvoline Preferred). Add eight ounces of Concentrate, Jeep Part Number 8123004.

② Capacities of conventional and Trac-Lok rear axles are identical.

J41206

TIRE INFLATION PRESSURES (PSI)

Inflate tires cold, before running. Do NOT reduce pressure if tires are warm.

				NORMAL LOAD (1)				MAXIMUM LOAD (2)			
MODEL	GVW RATING	TIRE	LOAD RANGE	SUSTAINED DRIVING OVER 65 M.P.H.(3)		UNDER 65 M.P.H.		SUSTAINED DRIVING OVER 65 M.P.H.(3)		UNDER 65 M.P.H.	
				FRT.	RR.	FRT.	RR.	FRT.	RR.	FRT.	RR.
CJ-5 & CJ-6	3750 (3900 CJ-6)	E78x15 F78x15 H78x15 7.00x15 6.00x15	B B B D C	24 24 24 40 40	24 24 24 40 40	20 20 20 30 30	20 20 20 30 30	28 28 28 45 45	28 28 28 45 45	24 24 24 35 35	24 24 24 35 35
WAGONEER & CHEROKEE	5600	F78x15 H78x15	B B	31 25	31 25	27 21	27 21	32* 28	32* 28	32 24	32 24
WAGONEER & CHEROKEE	6000	H78x15	B	26	26	22	22	32	32	28	28
TRUCK 25/45	5200 5600	G78x15 H78x15 7.00x15	B B D	32 28 45	32 28 45	28 24 35	28 24 35	32* 32 45	32* 32 45	32 28 35	32 28 35
TRUCK 46	6500 7200 8000	8.00x16.5 7.50x16 8.75x16.5 7.50x16 9.50x16.5 7.50x16	D C D D D E	45 40 45 40 45 40	45 40 45 40 45 40	35 30 35 30 35 30	35 30 35 30 35 30	55 45 65 55 55 55	65 55 70 70 70 85	45 35 45 45 45 45	60 45 60 60 60 75

*Speed limited to 75 M P H

(1) **Normal Load** – Frequently selected accessories plus driver & two passengers (with CJ models, driver and one passenger)

(2) **Maximum Load** – Gross Vehicle Weight Rating (GVWR)

(3) Sustained driving over 75 M P H for Cherokee and Wagoneer

TECHNICAL SERVICE LETTER REFERENCE

[illegible]